CHARLES ELMORE CROPLE
CLERK

Supreme Court of the United States

OCTOBER TERM, 1936.

Nos. 35 and 36.

SAMUEL B. SMITH,

Petitioner,

vs.

A. B. HALL and L. C. HALL, d. b. a. HALL BROTHERS,

Respondents.

SAMUEL B. SMITH,

Petitioner,

vs.

JAMES MANUFACTURING COMPANY and ELMIRA HATCHERIES, INCORPORATED,

Respondents.

APPENDIX TO PETITIONER'S BRIEF.

CHARLES NEAVE,
DEAN S. EDMONDS,
ALBERT L. ELY,
Counsel for Petitioner.

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APPENDIX.

Filed April 23, 1925.

UNITED STATES DISTRICT COURT,

DISTRICT OF NEW JERSEY.

(Affirmed: 17 F. (2) 453)

THE BUCKEYE INCUBATOR COMPANY and SAMUEL B. SMITH,
Plaintiffs,

against

ELDEN E. COOLEY,
Defendant.

BODINE, District Judge:

This is a suit for infringement of the Smith patent 1,262,860 for a method and apparatus for hatching eggs on a large scale, and patent 1,263,138 for a specific construction of racks and egg trays for use in incubators of large capacity. The patents were held valid in the case of Buckeye Incubator Company and S. B. Smith against D. A. Wolf, reported in 291, Federal 253, affirmed Circuit Court of Appeals, Sixth Circuit, 296 Federal, 680.

This case is before this court on the same record as before Judge Westenhaver, except for the testimony of Milo Hastings with respect to his activities during the period from 1910 to 1918, and the testimony with respect to the Freas patent 1,165,958 for an improvement in a heating system for constant temperature baths in laboratory work.

Judge Westenhaver's decision was adverted to by the Circuit Court of Appeals as completely dispositive of the question of validity. He adverts to the testimony with respect to Hastings' alleged use in the following language:

"The evidence of his use or disclosure consists of four newspaper articles and his rejected application for a patent. The newspaper articles were published in the 'Dollar Hen' in the year 1909, in 'Poultry Culture' in February, 1912, in 'Boston Sunday Globe' November 10, 1912, and in the 'Technical World' in April, 1913. Of these articles defendant's expert says that the disclosures of the 'Poultry Culture' article are the nearest and most specific description of Hastings' use or construction. The earliest article in the 'Dollar Hen' may be disregarded, as Hastings there merely describes a process for maintaining temperature in cold storage and suggests how it may be applied in a hatchery. It does not purport to describe an apparatus or ever to have been put to any use. The other articles relate to two hatcheries said therein to have been constructed by Hastings, one at Muskogee, Okl., and the other at Port O'Connor, Tex. Whether either hatchery was a commercial and practical success cannot be discovered from the articles, and it is not proved by the evidence."

Generally speaking, Hastings' testimony added little to his published articles. After his book the "Dollar Hen" was written, he was employed by one Walter B. Davis, who had a small poultry farm in Brooklyn and constructed in the cellar an incubator of 6000 egg capacity, in the fall of 1910 or early in 1911. In the present day descriptions of this hatchery and the drawings now made, a complete anticipation is indicated. The surprising thing, however, about this Davis hatchery is that it was destroyed in 1913, when Davis went out of business and was never used to hatch more than 2000 eggs at one time. If the incubator had merit, it is improbable that it would have been destroyed so soon after its construction.

S. B. Smith holds an exclusive license to build incubators with a capacity of 25,000 eggs or over. The Buckeye Company, the assignee of the patents, had reserved to itself

the exclusive right to build incubators up to and including a capacity of 12,500 eggs. The holders of the entire rights under the patents are before the court as parties plaintiff, it is immaterial what rights they may have as between themselves if the patents be valid and infringed.

The specifications in the Smith patent 1,262,860, so far as pertinent are as follows:

> "The improved apparatus and method, is particularly designed for extensive operations wherein a chamber of large dimensions is adapted to contain thousands of eggs in separate trays arranged in tiers and the method of heating is such that the heated air is adapted to the eggs in various stages of incubation. There is a forced circulation of hot air through the chamber which is adapted preferably to maintain all eggs at temperatures between 100° and 105° Fahrenheit approximately and this improved system contemplates that fresh eggs will be placed in a horizontal plane, preferably by means of trays supported in horizontal planes, and after the eggs have been subject to the circulation of hot air for a predetermined time (the air circulating largely around the eggs) they will be placed in a tilted or inclined position in a different location but still subject to the same column of air and at this period of incubation they will be tilted in different planes at regular intervals during the time they remain in this latter position, and after they have remained for a predetermined time they will be again moved to a different position with reference to the forced circulation of hot air and so placed therein that the air will tend to keep the eggs below 105° temperature, and in this last named position the air will be forced to pass between the different eggs and will in effect act as a cooling medium for the eggs. The temperature of circulating air should be such as will prevent the eggs in the early stage of incubation from falling below 100° and the speed or velocity of the circulating air should be such as to carry the heat away

from the eggs in the later stage of incubation and thereby hold the temperature of those eggs at 105° or slightly below that. It is manifest that the temperature will remain practically the same throughout the column of eggs, but the air is impelled with sufficient velocity to carry the heat away from the eggs which happen to be in the advanced stage of incubation.

* * * * * *

As explained later the trays near the bottom are preferably arranged so that the air is forced to pass between the eggs in each tray thereby cooling or holding the temperature of those eggs down.

* * * * * *

It, therefore, appears that the improved apparatus and method contemplates the application of hot air circulating in a column with such speed as to keep the temperature substantially uniform and so arranging the eggs that the fresh eggs are placed at one point in the column of air and held in a horizontal plane until they reach a predetermined stage of incubation and then put at a different point in the same column of air and kept in planes inclined to the horizontal and thereafter placed at such a point in the column of air that the forced draft of air acts to hold the eggs at a uniform temperature and to prevent them from becoming overheated and thereafter placing the eggs into final position for the hatching operation."

All of the claims are in suit. The first three, as follows, probably embody the invention.

"1. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a current of heated air, said current being created by means other than variations of temperature

and of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

"2. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a power driven current of heated air in an adjacent chamber through openings into the egg chamber, said current being of sufficient velocity to circulate, diffuse and maintain the air throughout the egg chamber at substantially the same temperature whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

"3. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a vertically directed current of heated air in an adjacent chamber to circulate in said egg chamber through upper and lower openings between said chambers, said current being created by mechanically moving means of such velocity as to diffuse and maintain the air throughout the egg chamber at substantially the same temperature whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in the less advanced stage for the purpose specified."

It is said that the patent does not disclose with sufficient clarity the invention. Since, however, the Circuit Court of Appeals for the Sixth Circuit, has held the patent valid, it seems hardly necessary to go into the question of the sufficiency of the disclosure. There is little doubt, however, but that the patent expressly discloses the invention, so that it may be practiced by those reasonably skilled in the art.

The defendant, Cooley, knew about the litigation in Ohio. He procured, after that suit, a Buckeye incubator (No. 7), called in local carpenters and mechanics and built similar units. These units were all operated during the seasons of 1923 to 1925 inclusive. Infringement seems clear.

The tray patent No. 1,263,138 is merely a detailed patent pertaining to structural details and was held valid in the Sixth Circuit and seems to have been slavishly imitated by Cooley.

Smith is today operating an incubator with a million egg capacity. His gross sales, in 1925, were nearly a million dollars. His royalties from the Buckeye Company for 1925 were forty-two thousand dollars. It is estimated that the gross sales of incubators, embodying the invention, was in excess of one and three-quarter millions of dollars for that year. From the small beginning of a few years ago the business has grown to respectable proportions. Obviously, there is commercial success.

Of the prior art patents, a number were introduced showing means for ventilating rooms and drying vegetables and meats by means of forced drafts. The analogy is not at all clear. Other patents were introduced showing the principle of stage incubation and methods for providing for the escape of foul air. There was also the Freas patent No. 1,165,958 relating to heating systems in bacteriological incubators. None of the prior art patents, however, disclose the Smith arrangement or the Smith method, nor are they in the same art.

There is no testimony that any of the prior art patents were capable of hatching chicks. The cold storage patents, patents for aging cigars and for drying vegetables and incubating bacteria have no applicability.

The reasoning of the Hastings prior use is not persuasive against the patent. Smith never lost sight of results. Hastings never seems to have procured results. He built one sort of an incubator and the next year changed to another. The following year he built another kind of incubator and so on. Business success never followed his adventures. The testimony with respect to the construction of the Davis hatchery is not convincing. The kodak pictures offered in evidence disclose little. The drawings made on the eve of the present suit are, at best, Hastings' recollection of what he now fancies he did in 1911. It seems impossible that the methods disclosed in his drawings should not bear a resemblance to Smith's successful incubator rather than his failures. Had the Davis hatchery been a success there seems little reason to suppose that the money and time expended upon it should have forthwith been destroyed, and that Hastings should not have pressed his application for a patent. When he went to Muskogee the next year and built a hatchery, described in the Poultry Journal for February, 1912, he used another method. The Muskogee hatchery was a complete financial failure. Hastings says because of the poor quality of eggs and the low charge for hatching. The summer of 1912 found him at Port O'Connor, where a hatchery was built with a capacity of 150,000 eggs. By this time Hastings had discovered a means for turning eggs. At Port O'Connor, Hastings was not using hatching compartments open at the ceiling nor the means which he said existed in the Davis hatchery of having open outer door and free communications between the egg chambers and the outside corridor. Hastings undoubtedly had a greater measure of success, but it seems probable that he never had in com-

bination with a fan, restricted openings for foul air, eggs in different layers in a closed chamber and the currents of heated air so created as to diffuse and maintain the air throughout the egg chamber at substantially the same temperature, so that the units of heat were carried from the eggs in the more advanced stages of incubation to those in the less advanced stage.

Like many others in the course of his experiments he had various notions and various thoughts which he never embodied in a workable piece of mechanism.

Hastings' testimony adds only this to the Hastings' writings, that one is satisfied that his experiments were never in any definite direction and that he never achieved the point of successful operation.

Smith's alleged prior public use as recorded in Reliable Poultry Journal article of August 20, 1920, and the other publications with respect to his earlier work, might well be characterized as Judge Westenhaver did the Poultry Journal article as a flamboyant newspaper interview, in which a high degree of accuracy is not expected nor usually found. Smith and Hastings were working in different places for the same result, but there is nothing in the record to indicate that Smith, prior to his discovery, had placed his hand upon invention. He was sometimes boastful and his boasts were sometimes recorded in the public press, but there is nothing to show that he had placed in public use the patented device. Hastings was and is boastful. Convincing proof of this alleged method and device is certainly lacking. Success never rewarded his attempts.

The plaintiff may have a decree accordingly.

IN THE

DISTRICT COURT OF THE UNITED STATES

FOR THE DISTRICT OF OREGON.

THE BUCKEYE INCUBATOR COMPANY and SAMUEL B. SMITH,
Plaintiffs,

vs.

ARCHIE E. STONE,
Defendant.

REPORT OF THE MASTER-IN-CHANCERY.

To the Honorable, the Judges of the above entitled Court:

Pursuant to the decree of this court, made and entered on the 10th day of November, 1924, the undersigned Master-in-Chancery in and for said court and cause, submits herewith his report as follows:

In accordance with the provisions of the decree, and the practice of the court, the Master set said cause for hearing and required the defendant to render upon oath complete, definite, clear, and correct statements of account, as provided by Equity Rule No. 63, of the number of the incubators, and the capacity of each incubator made and used by him in violation of the plaintiffs' patent, and held to be an infringement thereof in this suit, containing the gains or profits made by him in the operation of the infringing incubators, and giving the dates and amounts of the sales of chicks incubated in the infringing incubators, and to submit for inspection all of the accounts, books, vouchers,

and records of every kind and description in which said data was originally entered, all accounts, books, vouchers, and records showing the cost of constructing the infringing incubators, and all records and documents relating to the operation and sales of the product resulting therefrom, and complete drawings and detailed descriptions properly verified, of any and all incubators then in use or theretofore used by him, built subsequent to the bringing of this suit and claimed by him not to be an infringement of plaintiffs' patents, making a full and complete disclosure of the construction and operation thereof, together with the number of chicks incubated therein, with detailed statements of the cost of operation, the dates and amounts of sales, and profits and gains made therefrom.

The defendant having made it to appear, by affidavit, that on December 23, 1924, all of his buildings, including all the incubators and hatching devices, were totally consumed by fire, and that he was not then making or using any incubators, or parts upon which the plaintiff has or claims patent, and that by reason of said fire he was unable to procure the necessary drawings and detailed descriptions disclosing the construction of the incubators complained of in plaintiff's complaint, the hearing was postponed, and thereafter the defendant made showing by affidavit which is made a part of this report, marked Exhibit I. Thereafter, and on July 24th, 1925, upon motion of the plaintiffs, the Master set said cause for hearing, to be held on August 12, 1925, and issued an order making similar requirements of the defendant as hereinbefore set forth.

Thereafter hearings were had before the Master, the plaintiffs appearing by Messrs. Border Bowman and Ralph C. King of solicitors, and the defendant appearing in person and by Mr. David E. Lofgren, his solicitor; testimony was adduced from witnesses called by both parties, by exhibits made a part of the record, and by depositions

duly taken upon commissions, all of which are submitted and made a part of the Master's report, and which are hereinafter scheduled and identified.

The Master's report, for convenience and to avoid confusion, is divided into two parts, as follows: the first, relating to the assessment of damages upon the machine which was admittedly an infringement of plaintiff's patent, and second, relating to the question of infringement, based upon the subsequent machines built and used by the defendant, and assessment of damages by reason thereof.

The Defendant's First Three Machines.

The capacity of the defendant's first machine was 4480 eggs, and the Master finds that it was used by the defendant for making at least two hatches. Thereafter, and prior to the decree, the defendant built and operated two other machines, one having a capacity of 3200 eggs, and the other having a capacity of 12,800 eggs. The defendant produced no books or records showing the cost, receipts, profits, gains or losses, and his oral testimony upon this subject is vague and unsatisfactory. The Master does not feel warranted in relying upon it. There is competent and undisputed testimony that a reasonable royalty for the use of a machine embodying the essential elements of plaintiffs' patent is ten cents per egg capacity, and the Master finds that such sum is a reasonable royalty. It appears, however, that before the manufacture and use of the second and third machines, the defendant destroyed his first machine and used the material thereof, at least in part, in the manufacture of the succeeding incubators. A deduction of the capacity of that machine should be made from the joint capacity of the second and third machines, i. e., that 16,000 less 4480, or 11,520 egg capacity.

The Master finds that as to the first machine, the plaintiffs are entitled to decree against the defendant in the sum of $448.00.

The Master finds as to the second and third machines that the plaintiffs are entitled to decree against the defendant in the amount of $1152.00.

Defendant's Present Incubators.

As to the incubators now in use by the defendant Stone, as well as the second and third machines, he makes strenuous claim that there is no infringement, and bases his claim upon the following information:

1. That the plaintiffs' patent is invalid.

2. That it has been anticipated by Milo C. Hastings in 1912 and 1913 at Muskogee, Oklahoma, and by R. C. Lowery at Pacific, Missouri, and by previous patents issued in analogous arts.

3. That its only patentable feature is a central corridor with egg chambers on one or both sides, down which corridor the heated air is forced vertically, escaping into the egg chambers at the bottom, striking the eggs and being circulated around them up to the heating chamber at the top, where it is reheated, again caught by the fan, and the cycle repeated.

4. That with the exception of the first machine which was dismantled, Stone works upon a very different principle, in that while he has a heating chamber and a forced circulation of air, he blows the heated air directly upon the eggs and does not use a central corridor, and that the air is not driven down in a vertical direction, but is driven in a horizontal direction, directly through the upper chamber or chute, and when it reaches the far end of this chute it circulates downward to a second heating chamber, is caught by a second fan there, and is blown again in a horizontal but opposite direction through the second egg chamber or

chute to the far end, where it ascends in the first heating chamber until caught by the first fan, and the cycle is repeated.

He further claims that by reason of his horizontal circulation of the heated air he obtains what he calls a variable temperature in each chute, and that the temperature of the air in the upper part of each chamber is higher than it is along its floor, and that by changing the trays from top to bottom he subjects the series of eggs in the same stages of incubation to a variation in temperature, which he claims is similar to that used by the humble hen, and results in stronger and healthier chicks.

In order that the problem presented in this suit may be more readily appreciable, a brief statement of the history of incubation should be made. The art of artificial hatching is not new. It was successfully practiced by the ancient Egyptians, but not until recent years had any method been devised whereby huge quantities of eggs could be incubated in a comparatively small space and in superimposed layers more than two in number. Buckeye Incubator Company vs. Wolfe, 291 Fed. 253.

The difficulties presented arose from the fact that in the process of incubation the egg generates animal heat and absorbs oxygen, and gives forth carbon dioxide, and therefore the eggs in the inner tiers would become over-heated and not properly revitalized by fresh oxygen. The problem then which faced Smith, Hastings, and Lowery was not to furnish heated air so that one or two layers of eggs would hatch, but was how to furnish and apply heated air and moisture to thousands of eggs in tiers in such a manner that the temperature would remain approximately the same throughout the entire mass, the foul air expelled, and fresh air and moisture admitted, giving to the eggs in the center of the column the same conditions as those at the ends and sides of the column.

Smith claims that he is the first man to have successfully done so; Stone contends that both Hastings and Lowery had achieved the desired results prior to the time that Smith claims he invented and perfected his device.

Before considering and reporting upon the validity of Smith's patent the Master will consider whether or not Stone's incubator infringes upon Smith's patent. The essence of both devices is that they have suitable outlets for the escape of foul air; suitable apertures to bring in fresh air; both avoid the fatal effect of "hot spots" in the column of eggs by the use of a confined rapidly moving current of air, and both get the best results by placing eggs in the highest state of incubation at a point in the incubator where the air from the fan will strike them before heating the eggs in the lower stages of incubation. Both require means whereby after the air has passed through the column of eggs, it will be returned to the heating chamber for reheating and be again propelled by fans in the stated cycle.

If Smith's machine was placed on its side there would be no essential difference between his apparatus and Stone's except that Stone places eggs in both corridors. The only function of the center corridor of Smith's incubator is to permit two egg compartments to be heated by the same column of air, and to provide a working space within the machine for handling the eggs.

Neither Smith nor Stone could operate their incubators except by two chutes or corridors. It is apparent from Stone's testimony that he could not operate his incubator by placing the eggs in both chambers were it not that he has two heating chambers and two fans, one at the end of the top chamber and the other at the opposite end of the lower chamber. The only difference in result claimed by Stone is that he claims to create a variation in temperature between the top and bottom of each chute. The tests made by the plaintiffs, after due notice to the defendant of the time and place where they were held, upon a machine

in all practical respects identical with Stone's, do not disclose any appreciable variation, and the Master is not impressed by the testimony of the defendant that such a variation exists or that it has any effect whatsoever upon the results obtained. Stone claims that he obtains exceedingly healthy and vigorous chicks by reason of this variation, but there is no evidence that they are stronger or more vigorous or in any way superior to those hatched by the Smith incubator. In fact, it appears from the testimony that Stone's ideas on incubators have been the result of a study of the Buckeye Incubator, which is licensed from Smith, and that Stone has been engaged in a readily apparent attempt to use the principles, methods and means disclosed by Smith and to avoid the effect of his infringement through trifling and immaterial changes. Both machines operate by means of currents of air which descend and ascend; in both the current of air is forced down vertically; in both it ascends vertically. The length of the ascending and descending columns do not affect, in the slightest degree, the operative value of the principle.

Mr. Stone uses all of the elements of the Smith machine, and merely changes their location in a way which neither produces a definite nor a better result. He, therefore, is guilty of an infringement.

The Master finds that the principles and elements of the Stone incubator are in all essential respects identical with those of the Smith incubator, and that he has infringed upon Smith's patent, if Smith's patent is valid.

The next and more difficult question is whether Smith was anticipated by either Hastings or Lowery. Hastings' machine was operated in 1912 and 1913. It consisted of a series of enclosed egg chambers, over the top of which ran a chute having a small opening into each chamber. Along the bottom of the chambers ran a second chute having openings from each chamber. The heating device was placed in a separate chamber adjacent to the egg chambers,

and the air forced by means of a fan therein into the upper chute, escaping from the apertures in the chute into the chambers and from the chambers into the lower chute and then returned to the heating chamber, and the action repeated. Shutters or doors were placed so that the heated air could be excluded from any one or more of the chambers. The first device installed by Hastings did not confine the heated air in any chute, while in the second it was closely confined and had very limited openings. In the first device, according to the testimony of S. J. Ward, not over five percent of the fertile eggs hatched. By means of the latter device forty to fifty percent of the fertile eggs hatched, but the hatchery was not a success, and Hastings did not discover any means to overcome the defects which were inherent in the apparatus. In fact, Hastings asked Mr. Ward, "Why don't this thing hatch?" to which the witness answered "Milo, I don't know, unless it is the acid or effect of the paper that you are using to line it." John G. Lieber, who was financially interested in the Hastings hatchery, testifies that hatches of about fifty percent were obtained. It is apparent, however, that Lieber was interested and more or less hostile with the hope that at some stage of the litigation of Smith's patent and the infringement suit brought by the Buckeye Incubator Company against Cooley, he might receive a return of the money he lost in the Hastings venture. His knowledge of Hastings' machine is dependent upon memory, his knowledge of the operation is rather vague, and the fact remains that the device was abandoned and it was not a success. Out of the four persons whom Lieber claims were satisfied customers, three of them testified that the hatchery was a failure. O. S. Dierfield, who attempted to operate it after Hastings abandoned the project, found that the machine worked successfully when only partly filled, and unsuccessfully when running to capacity. Hastings' later effort at Tiffin, Ohio, in 1917, also resulted in hatches of not over

fifty percent, and the project was abandoned. His efforts in Port O'Connor, Texas, were abortive, and the hatchery was never put in operation.

Lowery operated a hatchery at Pacific, Missouri, as late as June, 1917. His modes of operation were almost identical with that of Hastings. The hatchery was abandoned in 1917 and there is no evidence that it was an operative success.

The efforts of Hastings and Lowery were matched by the efforts of the patentee Smith, commencing in 1906 at Lykens, Ohio. All of them were experimenting with the forced circulation, none of them were successful, and the main reason for their lack of success seems to have been that they had not yet struck upon the fact that there must be sufficient force to the circulation to carry the heat from the eggs in the higher stages of incubation to those in the lower stages, thus in effect cooling the former and heating the latter. but they attempted to force the air into the chambers by openings which were too small, which resulted either in insufficient circulation or if the pressure from the fan was sufficient to give circulation, the rate of speed would be so high as to unduly deprive the eggs of their moisture and thus prevent a successful hatch. They had not discovered that in addition, there must be outlets for vitalized air and inlets for fresh air of sufficient size to furnish the hatching eggs with enough oxygen for successful incubation. The three men were experimenting along the same lines, having in many respects the same ideas, but they were only experiments. The problem which they were endeavoring to solve was not to invent a process or device by means of which some of the eggs could be hatched in tiers, for it is apparent from the history of the art and the experiments of all three, that this was possible, but their problem was to discover a process, device and means whereby a sufficiently large proportion of the eggs so placed in such an incubator could be hatched, and virile, healthy chicks obtained.

The evidence clearly shows that even with a faulty circulation of air, even with insufficient ventilation, and even with the development of "hot spots" in the center of the column of eggs, a varying percentage of the eggs in the column would hatch. Until, however, that percentage could be increased so that the results of the operations would render a profit to the hatchery, the problem was not solved.

The Master finds from the testimony that at least fifty percent of the fertile eggs placed in the incubator must be hatched before the operation passes from the debit to the credit side of the ledger. This, Hastings had not succeeded in doing, either in Muskogee, or in his later experiment at Tiffin. Both of his attempts were failures and were abandoned, and the fact of such failure and abandonment is cogent proof that he had not solved the problem with which he had been confronted.

There is no evidence in the record as to the percentages of hatches obtained by Lowery's method. It was abandoned in 1917, although the reasons for the termination of the enterprise do not appear. The evidence of the witnesses of the plaintiff and an examination of the sketches of the apparatus indicate that he had progressed practically as far and no farther than had Hastings and Smith up to the time that Smith perfected and patented his device.

The Master is not unmindful of the fact that it is not required of an inventor that the machine, device or process as disclosed by the drawings and specifications be a commercial success, but it is essential that it be an operative success, i. e., that in practice it will do what it is intended to do and perform and bring about the results which will constitute a material advance of the art.

In the Telephone Cases, 126 U. S. 536, 31 Law Ed. 863, the Supreme Court prescribes the test to be applied:

> "The law does not require that a discoverer or inventor, in order to obtain a patent for a process, must have succeeded in bringing his art to the highest de-

> gree of perfection. It is enough if he describes his method with sufficient clearness and precision to enable those skilled in the matter to understand what the process is, and if he points out some practicable way of putting it into operation."

In view of the previous state of the art, it cannot be said that either Hastings, Lowery or Smith had contributed to its advance until such time as they had described a method with sufficient clearness and precision to enable one versed in such matters to understand what the process was, and a practicable way to put it into operation. Neither the apparatus of Hastings or Lowery were practicable and did not meet the problem involved.

Hastings and Lowery may be said to occupy the same position in the art of incubation that Reis occupied in transmitting sound by means of electrical current. And the Supreme Court in the case last quoted says:

> "It is not contended that Reis had ever succeeded in actually transmitting speech, but only that his instrument was capable of it if he had known how. He did not know how and all his experiments in that direction were failures. With the help of Bell's later discoveries in 1875, we now know why he failed."

It may be said of the Hastings and Lowery machines that by changes which would permit the free passage of heated air into the chambers and egress from them, and by providing sufficient means for the expulsion of foul air and the admission of fresh air, they would be capable of doing what Smith accomplished. But they did not, and neither Hastings nor Lowery were capable of discovering the defects and remedying them. Smith did, and as said in *Proudfit L. L. Co. vs. Kalamazoo L. L. B. Co.*, 230 Fed. 120:

"It may have been under their very eyes, they may almost be said to have stumbled over it; but they certainly failed to see it, to estimate its value and to bring it into notice. Who was the first to see it and understand its value, and to give it shape and form and bring it into notice and urge its adoption * * *. Now that it has succeeded it may seem very plain to any one that he could have done as well. This is often the case with inventions of the greatest merit."

In this case Smith saw it, Smith gave it shape and form, brought it into notice and urged its adoption. We may wonder that Hastings and Lowery did not see what was wrong but the fact remains that they did not, and their machines were failures and were abandoned. When it is remembered that the very object of Hastings, Lowery and Smith was to devise a process and apparatus which would hatch enough eggs arranged in columns, tiers, and layers that would pay the costs of the operation, and of the eggs put into the incubator, and in addition give a reasonable margin of profit, it cannot be said that any invention had in fact been made, or any advance in the art achieved until that result had been accomplished. This, Hastings never was able to do and the evidence does not show that Lowery's incubator was any more successful than that of Hastings and it was abandoned.

The Master finds, therefore, that neither Hastings nor Lowery anticipated Smith.

The last question to be considered is whether the patents cited by the defendant in other arts are analogous and anticipate Smith.

The defendant has submitted to the Master the following described patents which he claims anticipate one or more of the claims of novelty made by Smith:

No. 559,676	T. R. C. Christianson
916,454	V. C. Koons
1,137,752	Geo. E. Goldstein
525,967	F. G. & A. C. Sargent
691,837	V. S. Bell
779,759	A. H. Berry & E. C. Woodward
206,389	Thos. Clegg
143,912	S. R. Kerby
1,244,429	Nicola D. Agostino
173,016	C. N. & E. A. Jones
211,821	Jas. H. Wickes
477,856	J. W Doty
544,785	J. H. Gore

Christianson's patent, 559,676, is a device for storing eggs and an apparatus for turning them so as to keep them fresh. The purpose and function of the device is to turn trays of eggs arranged in tiers by a single mechanical operation so that the yolk will be changed in its position in the albumen and remain embedded therein and not adhere to the shell. Smith makes no claim in his patent to have discovered that it is necessary to turn the eggs which are being hatched. That is as old as the art itself. The practice is carried on by the hen (see Testimony of Stone). It is recognized as being necessary in any kind of an incubator and in those having but a single layer of eggs it is done by hand. All that Smith claims upon the matter of turning the eggs is that he has a simple device whereby the entire tier can be turned in a single operation by means of a device which he patented. Smith's method and device is entirely different from Christianson's, and there is no anticipation there. It is further to be remembered that the defendant Stone in the instant case has abandoned and dismantled the turning device, and it is not claimed that the defendant in his later machines has infringed upon that device, in fact he turns each tray of eggs by hand, lifting them out of the incubator, turning

the frame and re-inserting in the case. Christianson's device is not adapted nor intended for incubation, and the art is by no means analogous, nor would an examination of the patent or the apparatus therein described suggest to a mechanic its adaptability as an incubator. The Buckeye Incubator Company vs. Wolfe, 291 Fed. 253, 264.

Koons' patent, 916,454, is for an incubator. It is apparent that it would be suitable only for a single layer of eggs, and it would be utterly impracticable to use the apparatus for hatching eggs in multiple tiers. It provides for an inlet for fresh air and an outlet for heated air, but there is no means provided for a forced circulation. In fact, it is apparent that the purpose of the inlet and outlet was not for ventilation but to provide a natural circulation, the heated air after passing around the eggs escapes at the top and its place taken by the fresh air admitted from the bottom. The circulation is obtained by reason of the difference of the weight and density of the heated air over that of the colder, heavier, fresh air. In other words, in an air tight room there would be no circulation of air; by opening the top of the windows at one end and the bottom of the windows at the other end, a circulation throughout the room would be obtained. Incidentally, if the incoming air were fresh, ventilation as well as circulation would result, but so far as Koons' patent is concerned the object of the inlets and outlets was to obtain circulation and not ventilation. The Master finds that Koons' patent is not an anticipation of the Smith patent.

Each of the other patents cited are either of drying fabrics, food products, or evaporating fruit, or aging cigars. Their very purpose is entirely different from that sought by Smith in incubation. The evaporators of the dryers remove moisture, the object of Smith and all other manufacturers of incubators is to conserve moisture; the use of any one of those apparata as an incubator would result in a flat failure, nor can it be said that they are in analogous art, and if Smith had studied each device and had finally

come to the conclusion that by making changes and adopting part of the principles or all of the principles and the elements of the various devices, they could be used in incubation, he still would have invented a process and means of carrying the process into execution.

The Master finds that none of the patents cited anticipate Smith.

Assessment of Damages on the Present Machine.

Having found that the Smith patent is a valid patent, and that the machines now used by Stone are an infringement of that, the Master passes to the question of assessing the damages. In view of the unsatisfactory showing by Stone as to the number of eggs hatched, the prices obtained, the cost of operation, the difficulty of arriving at any accurate estimate of profits and gains derived by Stone, the Master feels obliged to resort to the reasonable royalty heretofore found, and to assess the damages against Stone by that basis.

It appears from Stone's testimony that the egg capacity of his present machine is 100,000 eggs (Stone—Direct—page 42).

The royalties upon that capacity would be $10,000.00, but inasmuch as the plaintiffs in their brief make claim for $5,200.00, the Master assesses the damages with regard to the present machine at $5,200.00.

The Master does not believe that the facts or circumstances in the case warrant a recommendation that the damages be increased by the Court as provided for in the statute.

The Master transmits with his report the following records and documents:

1. Transcript of testimony taken before the Master, together with exhibits 1 to 9 of plaintiffs, and A to J of defendant.

2. The deposition of Wm. H. Hopple.

3. The deposition of Samuel J. Ward.

4. Deposition of Rees Hicks.

5. Depositions of George Cugley and L. C. Sturgis.

6. Depositions of L. A. Corey, F. J. Anderson, R. F. Schanafelt, John G. Lieber, Huston A. Hogan, and L. W. Pitts.

7. Depositions of S. B. Smith, C. R. Jenney, and Joseph I. Taggart.

8. Deposition of O. F. Deerfield.

9. Copies of patents referred to in report and cited by defendant.

10. Brief of plaintiffs.

11. Brief of defendant.

12. Reply brief of plaintiffs.

The Master recommends that decree be entered in favor of the plaintiffs and against the defendant in the sum of $448.00 upon his first machine, the sum of $1152.00 on the second and third machines, and the sum of $5,200.00 upon the present machines now used by the defendant, and that the plaintiffs further have and recover of the defendant their costs and disbursements.

The Master's fees and compensation have not been paid, and the Master respectfully prays the Court that the amount thereof be fixed in such sum as your Honors may deem proper. The Master will make such further and other reports as may be necessary in the premises.

Respectfully submitted,

(Sgd) Robert F. Maguire,
Master-in-Chancery.

(1936 Ex. C. R. 105)

IN THE EXCHEQUER COURT OF CANADA.

Between:

HIS MAJESTY THE KING,
on the Information of the
Attorney-General of Canada,

Plaintiff,

No. 16188 and

THE SMITH INCUBATOR COMPANY and
THE BUCKEYE INCUBATOR COMPANY,

Defendants.

ANGERS, *J*.

Judgment rendered January 29, 1936.

This is an action instituted in the name of the Attorney-General of Canada to impeach a patent of invention number 217,777 issued to Samuel B. Smith on April 18, 1922, for an alleged new and useful improvement in incubators.

The defendant Smith Incubator Company is the owner of said patent as assignee of said Samuel B. Smith and the defendant The Buckeye Incubator Company is a licensee.

The action seems to me properly instituted under section 37 of the Patent Act, R. S. C. 1927, chap. 150 (now section 60 of the Patent Act, 1935, 25-26 Geo. V. chap. 32) and subsection (b) of section 22 and subsection (b) of section 30 of the Exchequer Court Act; the mode of procedure is regulated by rule 11 of the General Rules and Orders of this Court.

The grounds of invalidity raised in the particulars of objection may be briefly stated as follows:

* * * * * *

Schedule 1 above mentioned contains a list of 19 American patents and one German patent as well as a list of various publications and it refers to several prior uses, particularly that of Milo M. Hastings, of Muskogee, Oklahoma, commenced in 1912.

Copies of seven of the nineteen American patents and a copy of the German patent were put in evidence; they form part of a binder marked as exhibit 2.

Of the publications mentioned in schedule 1 only pages 103 to 107 of "The Dollar Hen," a book written by Milo M. Hastings and published in New York in 1909, were filed; although included in the binder exhibit 2, these pages were numbered as exhibit 3. Other publications, however, not enumerated in the list contained in schedule 1, were filed by consent, comprising three pages of a work intitled "Artificial Incubating and Brooding" whereon appears an article dealing with "The Origin of the Cyphers Incubator," three pages of the journal "Poultry Culture," of Topeka, Kansas, of February 1912, containing an article under the caption "The Mammoth Incubator out-mammothed," two pages of the issue of April 1913, of the review "Technical World" containing a short item entitled "Hatching chickens by wholesale" and an article by Wm. H. Day, lecturer in physics, on the subject of "Humidity in relation to incubation," published in the Bulletin of the Ontario Agricultural College of Guelph in March 1908; all these publications are included in the binder exhibit 2. In addition to these there were filed photostatic copies of an article entitled "Largest chicken hatchery in the world in Muskogee" (exhibit 8) and of an article entitled "A 60,000 egg incubator" (exhibit 10); there is no indication as to when and where the former was published; the lat-

ter appeared in the issue of November 1912 of "Popular Electricity Magazine."

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A patent bearing number 1,262,860 was issued in the United States on April 16, 1918, to Samuel B. Smith, assignor of the Canadian patent 217,777 to the defendant The Smith Incubator Company; no copy of the American patent was produced, it being admitted that it is word for word the same as the Canadian patent.

• • • • • •

The publications on which the plaintiff relied to prove anticipation and common knowledge are the following:

The Dollar Hen, a book written by Milo Hastings and published in New York in 1909, pages 103 to 107, the chapter entitled "Incubation—The future method of incubation," filed as Exhibit 3;

Poultry Culture, published in Topeka, Kansas, issue of February 1912, pages 7, 14 and 15, containing an article by Ralph H. Searle, associate editor, bearing the title "The Mammoth Incubator out-mammothed" and the subtitle "How Milo Hastings, a Kansas product, is startling the world with his big chick factory" (included in binder exhibit 2);

Technical World, of April 1913, pages 248 and 249, on which appears an article by George F. Paul, intitled "Hatching chickens by wholesale" (included in binder exhibit 2);

Artificial Incubating and Brooding, published by The Reliable Poultry Journal Publishing Company, November 5, 1898, at Quincy, Ill., pages 108, 109 and 110, containing an article under the caption "The origin of the Cyphers incubators" (included in binder exhibit 2);

An article entitled "Humidity in relation to incubation" written by Wm. H. Day, professor in physics, published in the Bulletin of the Ontario Department of Agriculture, Ontario Agricultural College, Guelph, Ont.;

Various articles and photographs dealing with the incubator built by Milo Hastings at Muskogee, Oklahoma, in the fall of 1911 and spring of 1912.

In his article "The Dollar Hen" Milo Hastings foresees the possibility of large hatcheries and describes summarily the plan of a new type of incubator. The description, which is rather indefinite, refers particularly to a process for maintaining an even temperature and for regulating the air moisture in the different parts of the hatching room. Concerning temperatures the description merely says that its "regulation is by means of air heated (or cooled as the case may be) outside of the egg rooms and forced into the egg rooms by a motor driven cone fan, maintaining a steady current of air, the rate of movement of which may be varied at will." Further on, with regard to air moisture, the article says: "The means by which the air moisture is regulated is similar to that used in up-to-date cold storage plants where the air is made moist by sprinkling and dried with deliquescent salts. The regulation of vapor pressure, like that of temperature, may be by electrically moved dampers which switch a greater or less proportion of the incoming current to the sprinkler or dryer as the case may be." It seems obvious to me that, although Hastings had, at the time he wrote his book, realized the necessity of regulating the temperature and the moisture in the incubator, he only had a vague notion of the manner in which this end could be attained. I think that Hastings' book, in so far as common knowledge of the art is concerned, may be disregarded.

The definition of the Hastings incubator contained in the article of Poultry Culture, viz. "The Mammoth Incubator out-mammothed," although somewhat more detailed and accurate than that found in the chapter of The Dollar Hen dealing with incubation, is not definite nor specific enough to permit one skilled in the art to reproduce the incubator in question. Besides the process of air circulation as well

as the method of turning the eggs differ materially from those used in the Smith incubator. I do not think that the article in question can be considered as anticipatory of the patent in suit.

The same remarks apply to the article which appeared in the Technical World of April 1913 under the heading "Hatching chickens by wholesale." As the previous one it refers to a current or draft of air driven by a centrifugal fan through the egg chamber, the purpose of which is to keep it at an even temperature throughout. The article alludes to an improvement by which "compartments holding 10,000 eggs are swung on a pivot and the eggs turned by inverting the entire compartment," but the manner in which this so-called improvement is operated is not clearly disclosed; whether it resembles the method used in the Smith incubator is impossible to say.

* * * * * *

Coming now to the objection based on prior use, I may note forthwith that the evidence adduced in this connection deals exclusively with the alleged prior use of Milo Hastings, commenced in the year 1912.

Hastings was called as witness by plaintiff and in support of his testimony filed as exhibits, in addition to the article on incubation in The Dollar Hen, three plans or drawings of the incubator he built in Muskogee, Oklahoma, in 1912 (exhibit 4) and a photostatic copy of the record of the United States Patent Office relating to his rejected application for a patent for a hatchery for the eggs of domestic fowl filed on May 3, 1911 (exhibit 5). This application was not filed as a publication as it was not published, a rejected application in the United States being treated as a secret document; it was filed to show Hastings' conception of his alleged invention immediately prior to the erection of the Muskogee hatchery in 1912.

It is perhaps not inexpedient to quote the material part of the description included in the specification; it helps to show what Hastings had in mind:

"My invention is that of a hatchery in which I secure better ventilation and a more uniform temperature throughout the hatching chamber by substituting a forced draft for gravity drafts. * * * * * I believe it to be best to cause the air to enter the hatching chamber from above, but my invention is not limited to any particular circulation or movement of the air as, by the use of the fan, the gravity drafts may be overcome and the air caused to move in any desired direction.

Ventilation I secure through cracks around the door of the hatching chamber or other small openings in any part of the air circuit. The air being constantly in motion requires less rejuvenation than dead air.

The part of my incubator that is new, and which has not been used in connection with hatching devices, is that of the fan, and this I maintain to be of distinct utility in securing uniform ventilation and an even temperature throughout all parts of the hatching chamber."

The original claim in the application read thus:

"The combination, in a hatchery for the eggs of domestic fowl, of a chamber for holding eggs to be incubated and a mechanical device with moving parts for causing a circulation of air in or through such chamber."

The claim having been rejected an appeal was lodged before the Board of Examiners-in-Chief; for the purpose of appeal a new claim was substituted in the following terms:

"A hatchery for eggs embodying an incubating chamber adapted for the reception of superposed trays for eggs to be incubated, whereby said eggs will be arranged in layers one above the other, means for affecting a distribution of air uniformly to the eggs

in the chamber, means for heating the air, and mechanically operated means for forcing a uniform circulation of air through all parts of the chamber and past the heater, whereby convexion currents will be eliminated, temperature and gaseous stratification of the air in the chamber overcome, and the eggs subjected to the influence of air of the same temperature and composition."

The decision of the primary examiner was affirmed by the Board of Examiners-in-Chief by a majority of two to one, and the application of Hastings accordingly rejected. The decision of the Board finally disposed of Hastings' application, which was thereafter abandoned.

It may be noted that the dissenting Examiner-in-Chief expressed the opinion that Hastings' claim was patentable.

I must say that the specification contained in the application of Hastings is rather indefinite and that it discloses little, if any, information which was not already known.

I will now turn my attention to Hastings' testimony and indicate succinctly the features thereof which may offer some interest.

Hastings said he became interested in incubation when only a boy through reading an article entitled "How to build an incubator." He built a small incubator and experimented with it. His interest in incubation persisted throughout his course at school, where he spent his spare time in reading all the books, bulletins and other publications dealing with incubation, on which he could lay his hands. Shortly after leaving school he entered the Agricultural College, where, until his graduation in 1906, he was in charge of the poultry work. In 1908 he was employed as a poultry man in the United States Department of Agriculture. Early in that year he was sent to investigate the cold storage industry of eggs and chickens. As a result he became interested in the problem of the control of humidity of eggs in cold storage rooms and he engaged in a scien-

tific study of the measurement and control of humidity and in this connection invented an instrument, patented by the Department of Agriculture, called a cold storage evaporometer.

During his study of the cold storage of eggs he became familiar with certain methods in which, for the equalization of temperature in cold storage rooms, a fan system of air circulation was in use. He read a book relating the story of Cyphers' attempt to build and operate a room hatchery. Witness identified the article "The Origin of the Cypers Incubator" taken from the work "Artificial Incubating and Brooding" as a copy of an article contained in the book in question, after which he continued his story; I think I ought to quote here the following passage of his deposition (p. 39):

> "Being familiar with these efforts and being conscious of the need for economy of space and improvements in the art of incubation, when working upon the cold storage industry in which a system was in use of fan circulation of air in a chamber to equalize heat and also to control humidity, it occurred to my mind that the essential problem of incubation upon a large scale involved the same series of natural conditions and natural laws, the circulation of air, the equal distribution of heat and control of humidity; and, therefore, that except for the essential difference in temperature between 32 degrees and approximately 100 degrees or a little more, the physical condition or the physical laws that would control them were the same. Therefore, if you could equalize the temperature of eggs when holding them cold, but at a definite temperature with a fan, it occurred to me why not put the fan in and do the same thing for an incubator with the same large room structure and superimposed trays."

For reasons immaterial herein Hastings made no effort to carry on the idea. He completed the work to which he was assigned in the Department of Agriculture, wrote his book "The Dollar Hen" and resigned from the Department, with a view he says, to try to develop his conceived system of large room incubation with the use of a fan.

Hastings then speaks of the incubator he built in the winter months of 1911 for one Walter B. Davis who owned a poultry farm in the suburbs of Brooklyn. As plaintiff is not relying on this particular prior use, nothing would be gained by wasting any time in dealing with this incubator. According to witness, the machine was not advertised.

In the late fall of 1911 we find Hastings in Muskogee, Oklahoma, where, with the financial assistance of a local lawyer and real estate owner of some means, he is erecting a room incubator. Hastings operated this incubator during the hatching season of 1912.

Three plans, marked A, B and C, were filed as Exhibit 4. They are diagrammatic drawings prepared by an artist under the supervision of Hastings a couple of days before the trial.

Plan A shows a floor plan view, plan B a side sectional elevation and plan C an end sectional elevation.

Hastings' incubator consisted of a series of enclosed egg chambers—seven according to plans A and B (indicated thereon by figure 1)—over which was a passage (No. 10 on plan B). The air was impelled by a fan or blower (No. 6 on plans A and B) placed in a separate room (No. 5 on plan A) adjacent at one end to the egg chambers, through a passage (No. 7 on plan A) situate at the rear of the egg chambers, into another passage (No. 8 on plan A) adjoining at the other end the egg chambers and in that passage upwardly through the heating apparatus (No. 9 on plans A and B) into the passage (10) over the egg chambers previously referred to. At the top of the egg chambers were openings leading from this passage (10) to

each of said chambers; at the bottom of the chambers were other openings leading to a passage (No. 12 on plan B) located underneath the chambers; the air thus passed from passage (10) into the egg chambers by the openings aforesaid and then escaped from the egg chambers into the lower passage (12); the air was then returned to the fan or blower and the same movement was repeated indefinitely.

In front of these egg chambers was a room (No. 2 on plan A) into which the chambers opened. Each egg chamber had a panelled door which was not hinged but set up and buttoned and could easily be removed. There were slides or shutters to close the openings from the upper passage (10) into the egg chambers so that the heated air could, if desired, be excluded from any of the chambers.

The proof discloses that Hastings had first installed an exhaust fan to create circulation; it did not give sufficient pressure and it was replaced by a blower (dep. Hastings, pp. 44 and 45). The egg chambers were made to contain large trays, 24 by 48 inches; these trays had screen bottoms with special millwork slides. An egg chamber contained twenty trays, each holding 250 eggs; the capacity of a chamber was accordingly 5000 eggs. Seven chambers gave total capacity of 35,000 eggs. Owing to the shallowness of the trays it was not convenient for the hatch to come off, so that the plan was to use the space for two trays at hatching periods. Allowing for this the capacity in reality did not exceed 30,000 eggs. The plant in fact was advertised as being of a total capacity of 30,000 eggs (ibid., p. 46).

Hastings said that ventilation was assured by the fact that the heater was a gas flame burning in the bottom of a vertical pipe; to support its combustion it had to draw in and consume a steady stream of air. This gas burner was operating in the closed incubation circuit; this resulted in a steady exchange with outside air; air was drawn out

and had to be replaced; it was replaced by air leakage through cracks in doors or other accidental openings. To obtain further ventilation, if required, the door to the room (5) where the fan or blower was located could be opened.

Speaking of the control of moisture, Hastings stated that his method of adding moisture to the air was to place cans of water in room 5 at the point where the air would be drawn over them when coming out of the passage (12) under the egg chambers (ibid., p. 50).

Asked if he turned the eggs and, if so, how, Hastings replied that they were turned by hand (ibid., p. 51).

No provision was made for the escape of air by valves or otherwise, as there was a steady escape through the heater (ibid., p. 51).

Hastings succeeded in hatching eggs in his incubator at Muskogee, as established by Hastings' own deposition (pp. 51 and 52) and that of Hickox (p. 104) and by the photographs filed as exhibit 7; his success, however, was only fair; financially the undertaking was a failure (dep. Hastings, pp. 52 and 54).

At page 52 of his deposition, Hastings summarizes the hatching record of the Muskogee incubator as follows:

> "The hatching records as a whole for that plant were not high and there were many individual cases of very poor results. I should judge that the hatching record of the whole would run around 40 per cent."

The depositions of L. W. Pitts, L. A. Corry and Richard Shanafelt taken on Commission show extremely poor results for which, however, Hastings may perhaps not be solely responsible.

Speaking of the commercial success of the enterprise, Hastings says (p. 54):

> "It did not meet its operating expenses during the season I was operating it."

The witness ascribed his financial failure to two causes; the low cost at which the hatching was done (one cent per egg) and the incidental expenses of a new venture (p. 54).

The Muskogee hatchery ceased its operations at the end of the hatching season of 1912 and never resumed them.

In the middle of the summer of the same year Hastings went to Port O'Connor, Texas, to build a large incubator for one E. T. Powers; the plant was never completed and was abandoned.

After a careful study of Hastings' experiments, I have reached the conclusion that they do not constitute an anticipation of the patent in suit. His apparatus and process differed from Smith's in many particulars. I may say incidentally, however, that I am inclined to believe that Hastings had conceived something involving novelty and in consequence patentable.

* * * * * *

The United States patent No. 1,262,860, which is identical to the patent in suit, was the subject of a considerable amount of litigation in the United States; it was declared valid in, among others, the following cases: *Buckeye Incubator Co. v. Wolf* (12), affirmed (13); *Buckeye Incubator Co. v. Cooley* (14); *Buckeye Incubator Co. v. Petersime* (15); *Buckeye Incubator Co. v. Blum* (16), affirmed (17); *Buckeye Incubator Co. v. Hillpot* (1), affirmed (2); *Buckeye Incubator Co. v. Miller Hatcheries, Inc.* (3); *Boling v. Buckeye Incubator Co.* (4), reversed on other grounds (5); *Waxham v. Smith* (6); *Smith v. Snow* (7), reversed on question of infringement (8); *Smith v. Jensma* (9).

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(12) 291 Fed., 253.
(13) 296 Fed., 680.
(14) 17 Fed. (2nd), 453.
(1) 22 Fed. (2nd), 855.
(2) 24 Fed. (2nd), 341.
(3) 41 Fed. (2nd), 619.
(4) 33 Fed. (2nd), 347.
(5) 46 Fed. (2nd), 965.
(15) 19 Fed. (2nd), 721.
(16) 17 Fed. (2nd), 456.
(17) 27 Fed. (2nd), 333.
(6) 70 Fed. (2nd), 457.
(7) 70 Fed. (2nd), 564.
(8) 294 U. S., 1.
(9) 1 Fed. Supp., 999.
(10) 17 Fed. (2nd), 453.

Although I am not bound by these decisions, I have given them due consideration. As observed by counsel, if these decisions do not constitute precedents, they contain very able reasoning by judges learned in the law. The inconvenience, however, is that it is difficult, not to say impossible, in most of these cases to ascertain what evidence was adduced against the validity of the patent. In some of the cases the endeavours and experiments of Hastings were relied upon, wholly or partly, by the party seeking to impeach the patent, as evidence of the state of the prior art; in other cases they seem to have been ignored or disregarded. Again in some of the cases Hastings was examined as witness and in others he did not appear. It would be difficult and somewhat hazardous in the circumstances to found an opinion upon these decisions. Nevertheless the judgment of the Circuit Court of Appeals, Third Circuit (10) which, on the question of the validity of the United States patent, confirmed the judgment of the District Court of New Jersey (unreported), is of some assistance. It appears from the report that the public uses relied on included, among others, Hastings' early work in 1908, Davis' hatchery, Hastings' application for a patent, Hastings' Muskogee hatchery and Hastings' Port O'Connor hatchery. Hastings moreover testified. Woolley, *J.*, who delivered the judgment of the Circuit Court of Appeals, made the following observations:

> "Hastings and Smith, the patentee, no doubt saw the same incubating problems, but Smith pursued a solution directly opposite that of Hastings. He, too, set eggs in trays arranged in tiers and enclosed them in a chamber and he also provided artificially heated air by a motor driven fan positioned at the top of the chamber, but he established an air current and regulated its direction by arranging the tiers of trays in two columns parallel with and separated from each other so as to form between them a central corridor

and placed partitions or curtains from the top to a short distance from the bottom of the tiers and directed the air current downwardly not through the eggs but through the corridor where it mushroomed on the floor, spread beneath the tiers, ascended through the egg trays and escaped through definitely arranged air outlets. By so controlling the current of heated air Smith claims, and we think correctly, that he is enabled to attain uniformity of temperature in its movement, first, through the old heat radiating eggs, and next, as it ascends, to the newer heat absorbing eggs, it being necessary that the temperature of the former should be maintained at a point not higher than 105° and that of the latter at a point not below 100°. Moreover, instead of drawing out trays to turn the eggs and then shoving them back, the trays are tilted in a fashion and to a degree simulating the egg turning movement of the hen. We think this arrangement involves invention. There is not only a marked but an intelligent difference between Smith's conception and the prior art and it is the difference between success and failure, or at least between success and feeble advances. It is not a great invention, yet it is one that solved a problem and it solved it in a new way and with such utility that it has become a commercial success which, measured by the amount of sales made and royalties paid, is really remarkable."

These remarks appear to me right and appropriate.

However it may be, I have, not unhesitatingly I must admit, reached the conclusion, based on the evidence adduced before me, that the patent in suit is valid.

There will be judgment declaring the patent valid and dismissing the action.

The defendants will have their costs against plaintiff.